

# UNITED STATES SIGNAL SERVICE

## MONTHLY WEATHER REVIEW.

VOL. XV.

WASHINGTON CITY, MAY, 1887.

No. 5.

### INTRODUCTION.

This REVIEW treats generally the meteorological conditions of the United States and Canada for May, 1887, and is based upon reports of regular and voluntary observers of both countries. Descriptions of the storms which occurred over the north Atlantic Ocean during the month are also given, and their approximate paths shown on chart i, on which also appears the distribution of icebergs and field ice reported. In tracing the centres of the paths of these storms, data from the reports of two hundred and thirty-three vessels have been used. The weather in the trans-Atlantic routes was seasonable during a greater portion of the month, the severe gales and low barometric pressure which prevailed over mid-ocean from the 22d to the 25th, inclusive, being a noticeable and unusual feature. The position and movement of the Arctic ice-fields corresponded closely with the average for corresponding month of previous years. Dense fog prevailed during a considerable portion of the month in the trans-Atlantic routes west of the fortieth meridian.

On chart i for this month are traced over the United States and Canada the paths of ten areas of low pressure; the average number for May during the past thirteen years is 8.6. The most severe storm of the month passed over the upper Mississippi valley and upper lake region on the 1st and 2d; it was accompanied by heavy thunder-storms and severe south and southwest gales, and followed on the 3d by rapidly falling temperature. The depression that passed northward over Louisiana and Arkansas on the 3d and 4th was accompanied and preceded in those states, and over the adjacent regions, by very heavy rainfalls, a number of stations reporting from two to four inches in forty-eight hours; these rains were of great benefit to this region, in which there had been prolonged drought.

The temperature of the month has been decidedly above the normal in all parts of the country, except along the Atlantic coast and in middle California. The greatest excess over the normal occurred in the Lake region and upper Mississippi valley, where it amounted to from 4° to 8°.

The most important feature in connection with the precipitation of the month has been the marked deficiency in New England, the Lake region, upper Mississippi and Missouri valleys, and east Gulf states, over which districts the deficiencies amounted to from 30 per cent. to 75 per cent. of the average.

In the preparation of this REVIEW the following data, received up to June 20, 1887, have been used, viz., the regular tri-daily weather-charts, containing data of simultaneous observations taken at one hundred and thirty-three Signal Service stations and twenty-three Canadian stations, as telegraphed to this office; one hundred and seventy-one monthly journals and one hundred and sixty-six monthly means from the former and twenty-three monthly means from the latter; two hundred and seventy-one monthly registers from voluntary observers; fifty-nine monthly registers from United States Army post surgeons; marine records; international simultaneous observations; marine reports through the co-operation of the "New York Herald Weather Service;" abstracts of ships' logs furnished by the publishers of "The New York Maritime Register;" monthly weather reports from the local weather services of Alabama, Colorado, Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Mississippi, Missouri, New England, New Jersey, North Carolina, Ohio, South Carolina, and Tennessee; and of the Central Pacific Railway Company; trustworthy newspaper extracts, and special reports.

### ATMOSPHERIC PRESSURE (expressed in inches and hundredths).

The distribution of mean pressure for May, 1887, determined from the tri-daily telegraphic observations of the Signal Service, is shown by isobarometric lines on chart ii.

The barometric means for May, 1887, were least in the Rocky Mountain regions and in British America to the north of Montana and Dakota, over which territory they ranged, generally, from 29.8 to 29.9, although means both above and below these figures are reported from scattering stations. At Q'Appelle, Northwest Territory, and Deadwood, Dak., the means were 29.79 and 29.98, respectively, that for Deadwood being about .05 higher than at any station in the region named. To the eastward and westward of the Rocky Mountain regions the mean pressure increases to 30.05 on both the Atlantic and Pacific coasts; while the isobar for 30.05 is traced along the Atlantic coast from Nova Scotia to Virginia, that for 30.05 on the Pacific coast is confined to the limits of Oregon. Over the region from the Great Lakes southward to the Gulf coast the barometric means ranged from 29.95 to 30.00. The highest mean reported during the month is 30.09, at Wood's Holl, Mass., the least being 29.79, at Q'Appelle, as stated above.

The departures from the normal pressure for the various stations are given in the tables of miscellaneous meteorological data; they are also graphically exhibited on chart iv by lines connecting stations of normal or equal abnormal values. A comparison of the mean pressure for May, 1887, with the normal, shows, as will be seen from chart iv, that over the greater part of the country the pressure has differed but slightly from the normal for May. In the middle Rocky Mountain districts, upper Missouri valley, and along the northern border of the United States from Lake Superior to the Pacific coast, the pressure has been below the normal; it has also been slightly below the normal over an area embracing the greater part of the territory south of the Ohio River and east of the Mississippi. In all other districts the pressure has been normal or above. The most marked excess, 0.1, is shown over Manitoba and the Red River Valley of the North; while the greatest deficiency, also 0.1, occurs in the Maritime Provinces of Canada.

The mean pressure for May, 1887, as compared with that for the preceding month, shows a decrease, generally ranging from .01 to .08, in the extreme northwest, the plateau, and

Pacific coast districts, and over the Southern States from New Mexico eastward to the south Atlantic coast, the deficiency being greatest in the Gulf States. Over the eastern slope of the Rocky Mountains, and from the Missouri Valley eastward to the New England coast, the mean pressure for May was greater than that for April, the excess ranging from .01 to .05 over all the regions named, except in New England, where it amounted to from .10 to .15.

#### BAROMETRIC RANGES.

The monthly barometric ranges at the various Signal Service stations are also given in the table of miscellaneous data. The monthly ranges have been greatest in the extreme northwest and northern Rocky Mountain slope; they have been least, as usual, in the southern districts. The following are some of the extremes:

Greatest.		Least.	
	Inch.		Inch.
Huron, Dak.....	1.33	Key West, Fla.....	0.27
Fort Custer, Mont.....	1.32	San Diego, Cal.....	0.29
Moorhead, Minn.....	1.30	Los Angeles, Cal.....	0.30
Fort Buford, Dak.....	1.28	New Orleans, La.....	0.35
Poplar River, Mont.....	1.27	Galveston, Tex.....	0.37
Saint Vincent, Minn.....	1.27	Mobile, Ala.....	0.42
Yankton, Dak.....	1.25	Pensacola, Fla.....	0.43

#### AREAS OF HIGH PRESSURE.

Six areas of high pressure were observed during the month, but only two of these passed within the limits of the stations of observation, and these were traced from the Pacific to the Atlantic coasts. Four areas of high pressure were first observed on the Pacific coast, and the general movement of these was first to the northeast, and after the centres passed the Coast Range the direction changed to the southeast. But two of these areas of high pressure passed to the east of the Mississippi Valley, and two were first observed north of the Saint Lawrence Valley and extended southward over the Maritime Provinces, New England, and the adjoining states, the direction of movement being generally to the southeastward.

I.—At the 7 a. m. telegraphic report on the 1st of the month this area of high pressure extended over the Pacific coast and plateau regions, the barometer near the centre, on the Oregon coast, being 30.42. The storm in the Missouri Valley extended over the eastern slope of the Rocky Mountains, the barometer being below 29.30 from Colorado northward to northeastern Dakota. A second area of high pressure extended over the middle and south Atlantic coasts, while a second area of low pressure covered Nova Scotia. During the succeeding twenty-four hours the area of high pressure on the Pacific coast passed to the east of the coast line, moving slightly to the north of east, after which it passed to the southeast, crossing the Rocky Mountains during the 2d, being central in eastern Colorado and covering the entire eastern Rocky Mountain slope on the morning of the 3d. During the easterly movement the barometric pressure within this area diminished slightly, and this decrease continued during its transit over the Mississippi Valley. The direction of movement changed to the northeast as it approached the Lake region, over which it was central during the 4th and 5th, but the decrease of pressure continued and the area became less clearly defined until it reached the Maritime Provinces, when the pressure increased to 30.40 and above on the 6th and 7th. After reaching the north Atlantic coast the southeasterly course was again resumed, and it finally disappeared as a well-defined area of high pressure on the 7th.

II.—This area of high pressure appeared north of the Gulf of Saint Lawrence on the 9th and moved southward to the New England coast, where it was central on the morning of the 10th. A portion of this high area apparently moved westward over the Lake region, where it remained during the 11th, 12th, and 13th. It passed slowly to the eastward, attended by northeasterly winds and fair weather over the northeastern portion

of the United States, crossing the Saint Lawrence Valley on the 14th and disappearing to the east of Nova Scotia on the 15th.

III.—During the 9th the barometer was high over the Pacific, southwest of California, and an area of low pressure, with considerable energy, was central over the northern plateau region, the low area being trough-shaped and extending southward over Nevada and Utah. During the 10th and 11th the high area moved northward along the Pacific coast, the centre of greatest pressure being in western Oregon on the morning of the 12th, while the area of low pressure previously referred to had moved to the eastern slope of the Rocky Mountains, inclining slightly to the northeast. This high area crossed the Rocky Mountains during the 13th, inclining to the southeast, and was central in eastern Colorado on the morning of the 14th. As it moved eastward a low area was formed over Utah and Colorado, which was apparently forced to the southward, and the low area in the northern portion of the barometric trough previously referred to continued its movement to the northeast. On the morning of the 15th the barometer ranged from .2 to .3 above the normal from the Missouri Valley eastward to the Atlantic coast, and it was from .3 to .4 above the normal to the northward of Montana. There was a general movement to the southeastward from the Saskatchewan Valley to the Missouri Valley during the 16th, 17th, and 18th, when this area covered the entire eastern slope of the Rocky Mountains and central valleys, but with the pressure decreasing from 30.5 to 30.0. It moved directly eastward from the lower Missouri valley to the Atlantic coast during the 19th and 20th, but the barometric pressure within its limits differed but slightly from the normal until it passed to the east of the coast line, when the pressure again increased. It was apparently extended by the approach of a secondary high area from the Maritime Provinces on the 21st, and was last observed to the east of the middle Atlantic coast on the 23d.

IV.—This high area extended over the north Pacific on the 21st, and apparently moved northeastward beyond the stations of observation. It was apparently to the north of Washington Territory on the morning of the 22d.

V.—This high area appeared on the north Pacific coast on the 24th where it remained almost stationary until the 28th, when it moved slowly to the eastward, reaching Idaho on the 29th and disappearing, by a gradual decrease of pressure, in the upper Missouri valley during the 30th.

VI.—At the close of the month this area of high pressure was apparently moving southeastward over the Maritime Provinces, where it had been first observed on the morning of the 30th.

#### AREAS OF LOW PRESSURE.

Chart number i exhibits the paths of the low areas traced from the tri-daily weather maps during the month. An examination of this chart will show that the region of greatest storm frequency was to the north of Dakota, and generally in the northern and central Rocky Mountain regions. It will be observed that no well-defined storm reached the Atlantic coast to the south of New England, and that only two were traced over the Mississippi Valley, one of which moved almost directly north and the other to the southward, both disappearing within the limits of observations.

Although ten separate areas of low pressure have been traced on the chart, in some cases these areas have been a part of extended barometric depressions which afterwards united, forming a single disturbance, and in other cases the principal areas have moved to the north of the stations of observation, leaving minor disturbances to the southward which possessed but slight energy and which were not sufficiently defined to be traced as separate areas of low pressure. It may be stated that all areas of low pressure to the west of the Rocky Mountains moved to the north of east; all of those appearing in the extreme northwest moved first to the south of east, and one of these latter changed its course to the northeast while central in the Missouri Valley.

The following table shows the latitude and longitude in which each area of low pressure was first and last observed and the average hourly velocity of each:

Areas of low pressure.	First observed.		Last observed.		Average progress in miles per hour.
	Lat. N.	Long. W.	Lat. N.	Long. W.	
No. I.....	52 00	106 00	53 00	70 00	22.0
II.....	28 00	99 00	39 00	89 00	14.0
III.....	50 00	126 00	54 00	104 00	27.0
IV.....	42 00	115 00	52 00	99 00	27.0
V.....	41 00	123 00	52 00	104 00	7.0
VI.....	41 00	108 00	33 00	101 00	13.0
VII.....	52 00	112 00	43 00	102 00	22.0
VIII.....	42 00	115 00	42 00	100 00	14.0
IX.....	53 00	110 00	40 00	70 00	16.0
X.....	53 00	105 00	39 00	88 00	18.0

Mean hourly progress, 18.0 miles.

I.—This disturbance appeared north of Montana during the latter part of the previous month and passed southward, following the general course of the Missouri Valley, reaching southeastern Dakota on the morning of the 1st. At this point the direction of movement changed more than 90°, the track of the storm at this point forming an acute angle. Previous to the northeasterly movement of this storm its general form was elongated toward the north and south, and after the change of direction it became circular in form and developed great energy while passing over Minnesota and the upper lake region. The barometer fell to its minimum during the 1st, the 3 p. m. report from Yankton and Huron, Dak., being 29.14. Heavy rains and severe storms occurred in Minnesota and adjoining states on the 1st and 2d, during the transit of this low area over that region. The rain-area extended southward over the Mississippi Valley and eastward over the Lake region, but caused no marked change in the weather conditions on the Atlantic coast and from the Lake region southward to the east Gulf coast, owing to the rapid movement of this disturbance to the northward. It was apparently central north of Lake Superior at 10 p. m. of the 2d, after which its centre could only be approximately located, but it apparently inclined more to the eastward after passing to the north of the Lake region.

The following special reports relate to this storm:

Yankton, Dak.: light rain fell during the night of the 1st-2d, and from 10 to 11 a. m. of the 2d. High northerly wind blew all day; maximum velocity, forty miles per hour.

Sturgeon Bay, Wis.: during a severe gale on the 2d the schooner "Consuelo" was driven ashore at Bailey's Harbor.

Milwaukee, Wis.: a storm of considerable violence prevailed at this place, and other portions of the state, on the 2d. During the day the wind blew at the rate of from thirty to forty miles per hour in Milwaukee, causing damage to cornices, signs, etc., in different parts of the city.

Marquette, Mich.: a strong southwest wind set in at 2.15 a. m. of the 1st and continued until 3.18 a. m., at a velocity of twenty-four miles per hour. Between 1.52 and 6.38 p. m. it again blew from the south with the force of a gale. On the 2d high south and southwest winds prevailed, with thunder-storm and heavy rain in the afternoon. From reports received up to the 7th it was shown that the storm of the 2d was unusually severe in thirteen counties of the upper Michigan peninsula. Great damage was done to the pine forests, and many buildings were destroyed. It was estimated that the damage done in the upper peninsula would reach \$100,000.

Muskegon, Mich.: the signal displayman at this station states that a severe gale prevailed on the 2d, attaining an estimated velocity of fifty miles per hour. During the storm the flagstaff used for the display of signals was blown down.

Iron River, Iron Co., Mich.: during the 2d a severe wind storm prevailed at this place. Trees were blown down and considerable light damage done to buildings, etc. The storm was reported to have been severe at Quinnesec and Florence also.

Mackinaw City, Mich.: the early morning of the 2d was cloudy, with falling barometer. Light rain fell from 8.50 to 10.30 a. m.; at 7.40 a. m. an easterly gale set in. At 3.40 p. m. the wind suddenly shifted to the south and blew a heavy gale, at the same time the temperature rose very rapidly, reaching 82° at 3.50 p. m., a rise of 40° in fifty minutes. A number of light buildings were blown down, and several vessels passed through the straits with part of their rigging gone.

Escanaba, Mich.: at 1.40 p. m. of the 2d a southerly gale, having an average velocity of twenty-six miles per hour, set in and continued until after midnight. During the afternoon the wind veered to the southwest and increased in ve-

locity. On the 3d the weather was threatening and cloudy. Telegraph lines were damaged by the gale, interrupting communication for sixteen hours.

Grand Haven, Mich.: on the 2d brisk to high southerly winds, with cloudy weather, prevailed during the greater part of the day. The 3d was decidedly colder, a fall in temperature of 26° occurring, with decreasing southwest winds.

Keokuk, Iowa: the morning of the 1st was clear with wind backing from south to southeast, increasing to gale at 3 p. m., and between 5.45 and 6.25 p. m. blowing at the rate of fifty miles per hour. Light rain fell from 8.25 to 8.40 p. m. During the day several thunder-storms passed west of the station. The gale subsided at 9 p. m., wind veering to south. Temperature high, barometer low and falling slowly. On the night of the 1st-2d the wind was brisk and veering toward the southwest, increasing to a gale at 10 a. m., and veering to west; highest velocity thirty miles per hour at 2.30 p. m. Gale ended at 5 p. m., wind backing to southwest. The temperature fell steadily during the day and the barometer rose rapidly.

Jefferson City, Mo.: a violent wind storm occurred at this place on the 2d, unroofing the Lahman Opera House and a number of other buildings in the city. Considerable damage was done to orchards and fences in the surrounding country.

Erie, Pa.: on the 2d the wind blew hard from the south until 7.30 p. m., when it suddenly changed to the west and blew with increased velocity.

II.—This disturbance developed in the lower Rio Grande valley, where its centre was approximately located on the morning of the 2d. By midnight of the 3d it had reached the west Gulf coast, attended by much needed rains in that locality. It moved northeastward, following the coast line, to southern Louisiana, after which it moved directly northward to southern Missouri, causing heavy rains in the lower Mississippi valley as far northward as Missouri. After reaching southwestern Missouri the course changed to the northeastward, and it was last observed as central in northeastern Illinois at midnight of the 5th, attended by general rains in the Lake region and upper Mississippi and Ohio valleys. The barometer continued low in the central valleys during the 4th, when minor disturbances were observed to the westward of the Alleghenies, but the disturbance disappeared by a gradual increase of pressure, and this disappearance was probably due to the advance of an extended barometric trough, which was at that time moving eastward from the northern Rocky Mountain region.

III.—This low area appeared on the Pacific coast north of Washington Territory on the 2d, but was at no time central within the limits of observation. It passed eastward over the Rocky Mountains during the 3d, remaining almost stationary far to the north of Montana during the twenty-four hours from midnight of the 2d to midnight of the 3d. It finally disappeared, apparently moving slightly to the north of east, and was last observed on the morning of the 4th.

IV.—The 7 a. m. telegraphic report of the 6th indicated the presence of this area of low pressure, covering the plateau regions and central in northern Nevada, the barometer being low to the north of Oregon and in Minnesota. The succeeding reports received during the 6th indicated that this area was extending and increasing in energy. At midnight of the 6th the barometer had fallen to 29.24, near the centre in Montana, and it was generally below 29.5 from Colorado and New Mexico northward to the Canadian stations. This barometric trough moved slowly eastward, while the centre of greatest pressure moved to the northeastward during the 7th, and it was last observed as central north of Minnesota at midnight of that date, although secondary depressions formed in the Missouri Valley and in northern Texas, which disappeared without causing marked changes in the atmospheric conditions. This storm was attended by very high winds in the upper Missouri valley and at western Canadian stations during the 7th, and it was also followed by severe gales on the north Pacific coast on the same date, these latter gales being due to an area of low pressure which is not traced on chart number i, as the track of its centre could not be determined from the reports received.

V.—This area of low pressure was central in California on the morning of the 9th. It moved northeastward, attended by rains on the coast as far south as San Francisco, and was followed by cold northwest winds and light snows and freezing weather over the central plateau regions. The centre of least

pressure crossed the Rocky Mountains near the northern boundary during the night of the 9th and continued its northeasterly course during the 10th, leaving a barometric trough to the southward, within which afterwards developed the storm traced as number vi. The pressure continued low in the region north of Dakota and Minnesota until the 14th, without any apparent easterly movement of this area, and it was finally replaced by an increase of pressure from the Pacific coast due to the advance of high area described as number iii.

VI.—This depression formed in the southern portion of the barometric trough traced as number v. It extended over the central Rocky Mountain region on the 11th, being central in the eastern part of Utah. It passed eastward over Colorado during the 11th and 12th, and on the morning of the 13th it extended from Texas northward over Minnesota, causing local rains in the states of the Mississippi and Missouri valleys. The advance of an area of high pressure from the Rocky Mountain regions apparently caused the formation of two areas of low pressure, one central north of Minnesota and the other in eastern New Mexico, both of which were replaced by the extension of the high area previously referred to.

VII and VIII.—On the 18th the barometric pressure was unusually low over the plateau regions and north of Montana, where on the afternoon of that day this area of low pressure (vii) was first located. During several days preceding there had apparently been a gradual decrease of barometric pressure, extending along the Pacific coast from Arizona and southern California and to the eastward of the Coast Range. This northerly movement continued over the plateau region while an area of high pressure passed southeastward over the Rocky Mountains, and although this disturbance is not traced to the southward it probably resulted from the conditions above named. It moved southeastward, crossing the Rocky Mountains near the northern boundary during the 18th; on the 19th it passed eastward

over Dakota, number viii developing in the southern portion of the barometric trough central in Nevada on the same day. The latter moved eastward over Colorado on the 19th, and the two united on the 20th, remaining almost stationary in eastern Colorado and western Nebraska until the afternoon of the 21st, when two secondary areas again formed—one passing northeastward over Lake Superior, and the other passing southward and disappearing quickly by a gradual increase of pressure, due to the advance of an area of high pressure from the Rocky Mountain region.

IX.—This is the only storm of the month which was traced to the Atlantic coast. It was first observed north of Montana on the 22d, and moved southeastward to Lake Superior, where it was central on the 24th, attended by local rains throughout the Northern States. From Lake Superior it moved eastward during the 24th and 25th, and its centre could only be approximately located. After reaching the Saint Lawrence Valley an area of low pressure developed on the New England coast and continued almost stationary over that region until the 28th, when the centre of disturbance was east of the coast line, apparently south of Boston.

When this disturbance was first observed in the extreme northwest on the 23d, a second area of low pressure, possessing but slight energy, but accompanied by very heavy rains, extended over Florida and the south Atlantic coast. This second disturbance was quite well defined in that region during the 23d, but it was not considered of sufficient importance to be traced on chart number i.

X.—This low area appeared far to the north of Montana on the 28th, moving first to the southeastward and then to the southward, causing general rains in the central valleys and on the Atlantic coast. This low area apparently moved from western Lake Superior southward to Illinois, where the centre was last located on the afternoon of the 31st.

#### NORTH ATLANTIC STORMS DURING MAY, 1887.

[Pressure in inches and millimetres; wind-force by Beaufort scale.]

The paths of the depressions that have appeared over the north Atlantic Ocean during the month are determined, approximately, from international simultaneous observations furnished by captains of ocean steamships and sailing vessels; abstracts of ships' logs and other data collected by the Signal Service agencies at the ports of New York, Boston, and Philadelphia; reports received through the co-operation of the "New York Herald Weather Service;" abstracts of ships' logs furnished by the proprietors of the "New York Maritime Register," and from other miscellaneous data received at this office up to June 21, 1887.

Eleven depressions are traced, of which two traversed the ocean from coast to coast; one originated over the Caribbean Sea and moved northward over Cuba; one first appeared south of Bermuda and advanced slowly northward; one passed southward from the American coast, in about N. 41°, and subsequently circled northeast; four developed to the southward or southeastward of Nova Scotia and Newfoundland; one is first charted northeast of Newfoundland, and two are first traced within the region of observation in European waters, one having advanced from the southwest and the other from the northwest. The general direction of movement of the depressions was east-northeast to the eastward of the fortieth meridian, while to the westward of that longitude the tracks were greatly diversified as regards position and direction.

The general character of the weather over the north Atlantic Ocean was seasonable, and the depressions which appeared within the region of observation were rather evenly distributed throughout the month. Storms of marked violence were not reported until the 10th, although previous to this date four depressions appeared, two of which passed from Newfound-

land to the European coast, their tracks being well to the northward of the trans-Atlantic routes; one pursued an irregular course southeast of Newfoundland, and one prevailed during the 2d to the southward of the British Isles. From the 10th to the 13th strong south to west gales were encountered to the eastward and southeastward of Newfoundland. From the 15th to the 20th unsettled and stormy weather prevailed from Bermuda to Jamaica, while on the 19th strong west to north gales were experienced to the southward of the British Isles. The severest storms of the month occurred over mid-ocean from the 22d to 25th, inclusive, with barometric pressure ranging below 29.00 (736.6). From the 26th to the 28th, inclusive, very heavy thunder-storms, accompanied by heavy rain, prevailed over the ocean south of Nova Scotia, and on the 28th strong to whole gales were reported in the vicinity of the Azores. During the first ten days of the month the barometric pressure fluctuated over the entire ocean, but continued relatively high in the vicinity of the Azores until the 7th when an appreciable fall, followed after the 8th by a rapid rise, in barometer occurred in that region. From the 10th to the 22d the pressure continued high over mid-ocean, after which a period of low barometric pressure continued over, and to the northward of, the Azores until the 29th. The month ended with an area of high barometer to the southward and southeastward of the Banks of Newfoundland; elsewhere the pressure was about normal.

For May, 1886, ten depressions were traced, of which one traversed the ocean from coast to coast. The positions of the tracks were, as in May, 1887, greatly diversified, and their general direction was east-northeast. In no instance were pressures below 29.00 (736.6) reported.

As compared with the corresponding month of previous